

REMARKS

Applicants respectfully request further examination and reconsideration in view of the instant response. Claims 1-14 remain pending in the case. Claims 1-20 are rejected. Claims 15-20 are withdrawn. Claims 8 and 11 are amended herein. No new matter has been added.

With regard to the grounds for the rejection of Claim 14, Applicants bring to the Examiner's attention that the rejection is based on the combination of Dierke in view of Wong, further in view of Dokic. The rejection for independent Claim 8, upon which Claim 14 depends, is based on the combination of Dierke and Kitabatake. The rejection of Claim 14 does not delineate any specific teachings of Wong. Therefore, for purposes of the current response, with regard to the rejection of Claim 14, Applicants assume that the rejection is based on the combination of Dierke in view of Kitabatake, further in view of Wong, and yet further in view of Dokic.

RESTRICTION/ELECTION

During a telephone conversation with Anthony C. Murabito on April 5, 2004, a provisional election was made without traverse to prosecute the invention as recited in Claims 1-14 (Invention I). Affirmation of this election is made herewith. Non-elected Claims 15-20 are withdrawn herein.

ALLOWABLE SUBJECT MATTER

Applicants wish to thank the Examiner for the indication that Claims 1-7 are allowed and that Claims 12 and 13 would be allowable if rewritten in independent form including the limitations of their base Claims and any intervening Claims.

CLAIM OBJECTIONS

Applicants note that Claims 3, 6, 8 and 11 are objected to because of various informalities. Claims 8 and 11 are amended herein to correct informalities. Applicants respectfully assert that the objections with regard to Claims 3 and 6 are not warranted.

With respect to Claim 3, the limitation of "using an error array which contains a respective bit for each encoded audio frame indicating whether or not an error resides within its associated encoded audio frame" is recited. As described in the current specification, summing of errors, as recited in step a1) of Claim 2 and step b) of Claim 1, can be computed based on error array entries (page 16, line 16 through page 17, line 9). Furthermore, the limitation recited in step a2) of Claim 2 does not require using an error array (page 17, lines 20-24). Therefore, Applicants respectfully assert that Claim 3 does not include any informality, and that the objection is thus overcome.

With respect to Claim 6, the limitation of “wherein steps a2), b), c) and d) are bypassed if said second error sum is zero” is recited. The second error sum is produced in step a1) of Claim 2. Therefore, it would be incorrect to amend Claim 6 to replace “a2), b), c) and d)” with “a1) and a2)” because it is logically inconsistent to bypass step a1) after the second error sum is produced at step a1). Rather, once the second error sum is produced and if it is zero, all remaining steps a2), b), c) and d) can be bypassed. Therefore, Applicants respectfully assert that Claim 6 does not include any informality, and that the objection is thus overcome.

35 U.S.C. §103(a)

Claims 8, 9 and 11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over United States Patent 5,918,205 by Dierke, hereinafter the “Dierke” reference, in view of United States Patent 5,890,112 by Kitabatake, hereinafter the “Kitabatake” reference. Applicants have reviewed the cited references and respectfully submit that the present invention as recited in Claims 8, 9 and 11 is not anticipated nor rendered obvious by Dierke in view of Kitabatake in view of the following rationale.

Applicants respectfully direct the Examiner to independent Claim 8 that recites that an embodiment of the present invention is directed to (emphasis added):

A method for muting a portion of an encoded bitstream of audio information comprising the steps of:

- a) detecting if a current encoded audio frame of said encoded bitstream contains an error; and
- b) provided an error is detected, repeating a previous decoded audio frame in lieu of said current encoded audio frame, said repeating comprising the steps of:
 - b1) obtaining decoded data of said previous audio frame;
 - b2) generating a repeated audio frame by replicating said decoded data of said previous audio frame for use in lieu of said current encoded audio frame;
 - b3) modifying said repeated audio frame by adding delay information of a last block of said previous audio frame with pulse code modulated (PCM) data of a first block of said repeated audio frame to generate new decoded data for said first block of said repeated audio frame; and
 - b4) sending said repeated audio frame to an audio output buffer for playout.

Claims 9 and 11 that depend from independent Claim 8 provide further recitations of the features of the present invention.

Dierke and the claimed invention are very different. Applicants understand Dierke to teach an audio decoder that employs an error concealment technique. In particular, Dierke does not teach, describe or suggest a method for muting a portion of an encoded bitstream of audio information including “modifying said repeated audio frame by adding delay information of a last block of said previous audio frame with pulse code modulated (PCM) data of a first block of said repeated audio frame to generate new decoded data for said first block of said repeated audio frame,” as claimed (see page 6 and page 7 of the current Detailed Action).

Moreover, the combination of Dierke and Kitabatake fails to teach or suggest this claim limitation because Kitabatake does not overcome the shortcomings of Dierke. Applicants understand Kitabatake to teach an audio coding device using error concealment by using the latest frame bit allocation pattern or subframe decoding result. In particular, Kitabatake does not teach, describe or suggest modifying an audio frame to generate new decoded data, as claimed.

With reference to Figure 3 of Kitabatake, an audio decoding device is shown. In the event that an error is detected in block data BD from “frame unpacking unit 21, the interim block data DMB is supplied (in place of the block data BD in question) to the decoding operation unit 23, and is used to form an operation result of one block output in an immediately before processing cycle” (col. 10, lines 5-10). The interim block data DMB is the block data of a block located immediately before the block data BD in question which contains an error (col. 10, lines 10-13). When there are successive errors, decoding operation processing is repeated using interim block data DMB until a current block data BD with no error is supplied from the frame unpacking unit 21 (col. 3, lines 13-22). In particular, the audio decoding device of Kitabatake uses an existing previous interim data block DMB in the event of an error in the current block data BD. Applicants respectfully assert that Kitabatake does not teach, describe or suggest that either the block data BD or the interim block data DMB

is modified to generate new decoded data. Rather, the interim block data DMB is reused in its original form in the decoding operation.

In contrast, embodiments of the claimed invention are directed towards a method for muting a portion of an encoded bitstream of audio information including “modifying said repeated audio frame by adding delay information of a last block of said previous audio frame with pulse code modulated (PCM) data of a first block of said repeated audio frame to generate new decoded data for said first block of said repeated audio frame” (emphasis added). In particular, the claimed embodiments recite that the repeated audio frame is modified.

With reference to Figure 7 of the present application, a process 440 for repeating the previous frame of an error frame to perform error concealment is shown. At step 480 of process 440, the results of weighting functions are added together and stored as the resultant PCM data used for the first block of the repeated frame. The repeated from is constructed with PCM data with the delay data added, resulting in newly generated decoded data (page 23, line 21 through page 24, line 8).

Figures 8 and 9 of the present application illustrate an example. Current encoded frame 512 is shown in Figure 8. The results of weighting functions are added together and stored as the resultant PCM data used for the first

block 513a of the repeated frame 512' of Figure 9. Repeated frame 512' is constructed from newly generated PCM data 513a-513f, where PCM data 513a-513f are newly generated based on current encoded frame 512 and include delay data.

In particular, Applicants respectfully assert that the repeated audio frame is modified to generate new decoded data including delay information of the previous audio frame. Therefore, Applicants respectfully assert that Kitabatake does not teach, describe or suggest a method for muting a portion of an encoded bitstream of audio information including "modifying said repeated audio frame by adding delay information of a last block of said previous audio frame with pulse code modulated (PCM) data of a first block of said repeated audio frame to generate new decoded data for said first block of said repeated audio frame" (emphasis added), as claimed.

Applicants respectfully assert that nowhere does the combination of Dierke and Kitabatake teach, disclose or suggest the claimed embodiments of the present invention as recited in independent Claim 8, and that this claim is thus in condition for allowance. Therefore, Applicants respectfully submit the combination of Dierke and Kitabatake also does not teach or suggest the additional claimed features of the present invention as recited in Claims 9 and 11 which depend from independent Claim 8. Therefore, Applicants respectfully submit that Claims 9 and 11 overcome the rejection under 35 U.S.C. § 103(a),

and are in a condition for allowance as being dependent on an allowable base claim.

Claim 10 is are rejected under 35 U.S.C. § 103(a) as being unpatentable over Dierke in view of Kitabatake, and yet further in view of United States Patent 5,347,478 by Suzuki et al., hereinafter the "Suzuki" reference. Claim 10 is dependent on independent Claim 8. Applicants have reviewed the cited references and respectfully submit that the present invention as recited in Claim 10 is not anticipated nor rendered obvious by Dierke in view of Kitabatake, and yet further in view of Suzuki, for the following rationale.

As describe above, the combination of Dierke and Kitabatake does not teach, describe or suggest a method for muting a portion of an encoded bitstream of audio information including "modifying said repeated audio frame by adding delay information of a last block of said previous audio frame with pulse code modulated (PCM) data of a first block of said repeated audio frame to generate new decoded data for said first block of said repeated audio frame," as claimed.

Moreover, the combination of Dierke, Kitabatake and Suzuki fails to teach or suggest this claim limitation because Suzuki does not overcome the shortcomings of the combination of Dierke and Kitabatake. Applicants understand Suzuki to teach a method and device for compressing and

reproducing waveform data. In particular, Suzuki does not teach, describe or suggest modifying a repeated audio frame by adding delay information to generate new decoded data, as claimed. Suzuki discloses a shift circuit for reducing the value of sample data toward a lower order of bits by a bit number corresponding to the shift data (col. 20, lines 35-44). A compression filter circuit is also disclosed for generating output signal that is applied to the shift circuit and weighted (shifted) in the direction in which it is reduced by the weight coefficient (shift data).

Applicants respectfully assert that the shift data of Suzuki is not the delay information as claimed, because the output of the shift circuit does not include the shift data, but is simply generated based on the shift data. Therefore, Applicants respectfully assert that Suzuki does not teach, describe or suggest a method for muting a portion of an encoded bitstream of audio information including “modifying said repeated audio frame by adding delay information of a last block of said previous audio frame with pulse code modulated (PCM) data of a first block of said repeated audio frame to generate new decoded data for said first block of said repeated audio frame” (emphasis added), as claimed.

Applicants respectfully assert that nowhere does the combination of Dierke, Kitabatake and Suzuki teach, disclose or suggest the claimed embodiments of the present invention as recited in independent Claim 8, and

that this claim is thus in condition for allowance. Therefore, Applicants respectfully submit the combination of Dierke, Kitabatake and Suzuki also does not teach or suggest the additional claimed features of the present invention as recited in Claim 10 which depends from independent Claim 8. Therefore, Applicants respectfully submit that Claim 10 overcomes the rejection under 35 U.S.C. § 103(a), and is in condition for allowance as being dependent on an allowable base claim.

Claim 14 is are rejected under 35 U.S.C. § 103(a) as being unpatentable over Dierke in view of Kitabatake, further in view of United States Patent 5,983,174 by Wong et al., hereinafter the "Wong" reference, and yet further in view of United States Patent 6,009,389 by Dokic et al., hereinafter the "Dokic" reference. Applicants respectfully refer the Examiner to beginning remarks regarding the inclusion of the Kitabatake reference in the discussion of the rejection of Claim 14. Claim 14 is dependent on independent Claim 8. Applicants have reviewed the cited references and respectfully submit that the present invention as recited in Claim 14 is not anticipated nor rendered obvious by Dierke in view of Kitabatake, further in view of Wong, and yet further in view of Dokic, for the following rationale.

As describe above, the combination of Dierke and Kitabatake does not teach, describe or suggest a method for muting a portion of an encoded bitstream of audio information including "modifying said repeated audio frame

by adding delay information of a last block of said previous audio frame with pulse code modulated (PCM) data of a first block of said repeated audio frame to generate new decoded data for said first block of said repeated audio frame,” as claimed.

Moreover, the combination of Dierke, Kitabatake and Wong fails to teach or suggest this claim limitation because Wong does not overcome the shortcomings of the combination of Dierke and Kitabatake. Applicants understand Wong to teach confidence and frame signal determination in a soft decision convolutional decoder. In particular, Wong does not teach, describe or suggest modifying a repeated audio frame by adding delay information to generate new decoded data, as claimed. Therefore, Applicants respectfully assert that Wong does not teach, describe or suggest a method for muting a portion of an encoded bitstream of audio information including “modifying said repeated audio frame by adding delay information of a last block of said previous audio frame with pulse code modulated (PCM) data of a first block of said repeated audio frame to generate new decoded data for said first block of said repeated audio frame” (emphasis added), as claimed.

Moreover, the combination of Dierke, Kitabatake, Wong and Dokic fails to teach or suggest this claim limitation because Dokic does not overcome the shortcomings of the combination of Dierke, Kitabatake and Wong. Applicants understand Dokic to teach a dual process audio decoder and a method of

concealing errors. In particular, Dokic does not teach, describe or suggest modifying a repeated audio frame by adding delay information to generate new decoded data, as claimed. Therefore, Applicants respectfully assert that Dokic does not teach, describe or suggest a method for muting a portion of an encoded bitstream of audio information including “modifying said repeated audio frame by adding delay information of a last block of said previous audio frame with pulse code modulated (PCM) data of a first block of said repeated audio frame to generate new decoded data for said first block of said repeated audio frame” (emphasis added), as claimed.

Applicants respectfully assert that nowhere does the combination of Dierke, Kitabatake, Wong and Dokic teach, disclose or suggest the claimed embodiments of the present invention as recited in independent Claim 8, and that this claim is thus in condition for allowance. Therefore, Applicants respectfully submit the combination of Dierke, Kitabatake, Wong and Dokic also does not teach or suggest the additional claimed features of the present invention as recited in Claim 14 which depends from independent Claim 8. Therefore, Applicants respectfully submit that Claim 14 overcomes the rejection under 35 U.S.C. § 103(a), and is in a condition for allowance as being dependent on an allowable base claim.

CONCLUSION

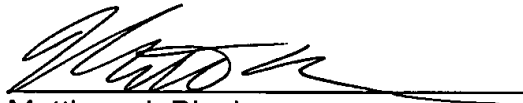
Based on the arguments presented above, Applicants respectfully assert that Claims 1-14 overcome the rejections of record and, therefore, Applicants respectfully solicit allowance of these Claims.

Applicants have reviewed the following reference that was cited but not relied upon and do not find this reference to show or suggest the present claimed invention: U.S. Patent No. 6,687,670, U.S. Patent No. 5,271,011, U.S. Publication No. 2002/0082827, and U.S. Publication No. 2002/0147590.

The Examiner is invited to contact Applicants' undersigned representative if the Examiner believes such action would expedite resolution of the present Application.

Respectfully submitted,
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